



2-Stage conversion of synthesis gas to olefin(s) and aromatics - useful in

gasoline, via intermediate prodn. of mixed higher alcohol(s)

Patent Assignee: IMPERIAL CHEM IND LTD

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JP 56159286 A 19811208 198203

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Abstract:

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Prepn. of unsatd. and/or aromatic hydrocarbons comprises: (a) prepn. and purifcn. of synthesis gas (CO+H₂ etc.) via steam reforming or partial oxidn.;

(b) conversion of synthesis gas to alcohols higher than methanol; and
(c)

conversion of part or all of the prod. from (b) to unsaturates and aromatics.

The catalyst for (b) contains (i) oxides of Cr and Zn; (ii) the oxide of at least one other metal, M, pref. Mn, whose divalent oxide is difficult to reduce to metal and is more basic than ZnO; and (iii) an alkali metal cpd. The catalyst for (c) is an oxide-contg. ion exchanger, with lattice openings permitting entry of mols. of 5-7 A.U. dia.; pref., it is a zeolite of the ZSM 5 family.

Used for mfr. of chemical intermediates and gasoline components from natural gas, coal, heavy oil, etc.. The octane number of the prod. from (c) appeared higher than when methanol was fed.

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